# Quarterly Public Meeting[1]

Ashford Office Complex
9030 Route 219
West Valley, New York
**Wednesday, May 23, 2012**

6:30pm Welcome and Introductions…… Bill Logue

6:35pm Project Update ……Bryan Bower, DOE

7:00pm Update on Phase 1 Studies……Dhananjay Rawal, ECS

- Update on Erosion Potential Areas of Study
- Update on Climate Change Workshop
- Update on Phase 1 Studies Website
- Update of Other Potential Areas of Study
  - Engineered Barriers
  - Exhumation
- Update on Timeline of Activities and Studies

7:45pm Topics for Next Meeting……Bill Logue

7:55pm Wrap up

8:00pm Adjourn

## Next Meeting Tentatively Scheduled
## Wednesday, August 22, 2012
## 6:30 p.m.
## Ashford Office Complex

[1] Call-in number: 1-866-203-7023; Participant code: 3471502563

To mute your phone press *6. To un-mute press #6. Please mute when listening to presentations.

Meeting discussion material will be posted to: www.westvalleyphaseonestudies.org

# GROUND RULES

**For Moderated Public Meetings**

**Phase 1 Studies**

West Valley Demonstration Project (WVDP) and
Western New York Nuclear Service Center (WNYNSC)

- *Please turn cell phones off, or to vibrate.*
- *Please respect the time limitations of the meeting.*
- *One person will speak at a time.*
- *Please do not interrupt anyone who is speaking.*
- *Please avoid side conversations in the room.*
- *Please hold all questions and comments until the presentation is completed and the moderator begins the question/comment period.*
- *Please clearly state your name before asking a question or making a comment.*
- *It is the moderator's job to manage the order of stakeholder participation (questions/comments) during the meeting.*
- *Stakeholders at the meeting will be recognized first.*
- *Stakeholders at the meeting should raise hands to be recognized before speaking.*
- *Stakeholders on the telephone or participating in a web-based meeting will be recognized after all questions/comments from stakeholders at the meeting are processed.*
- *Stakeholders on the phone please place your telephones on mute unless you are recognized by the moderator to speak.*
- *Meeting notes will be taken; meeting summaries will be prepared and posted on the website following review and approval by DOE/NYSERDA. The meeting summaries will include a general summary of questions and responses, but will not include individual comments and responses.*

# West Valley Phase 1 Studies Update

**Presented By**

**Quarterly Public Meeting**
**May 23, 2012**

# Agenda

- Status of Erosion PAS
- Status of Climate Change Workshop
- Next PAS
- Status of Phase 1 Study Website
- Looking Ahead
- Near – Term Timeline

# Status of Erosion PAS

- Richard Young, Ph.D., Professor of Geological Sciences at SUNY Geneseo, was added as a sixth SME in response to a public stakeholder suggestion

  Other five are:
  Greg Tucker, Ph.D.
  Sean Bennett, Ph.D.
  Robert Fakundiny, Ph.D.
  Michael Wilson, Ph.D.
  Sandra Doty, M.S., P.E.

- Weekly Erosion Working Group (EWG) conference calls and discussions are ongoing
- EWG is working on recommendations

# Status of Climate Change Workshop
## (Thursday, August 2, 2012, 9am-4pm)

**FOUNDATION QUESTIONS**

-What are the potential impacts of climate change on Phase 1 PAS?

-How may these impacts be evaluated in order to help the agencies reach a consensus on Phase 2 decisions?

**OBJECTIVES**

-Agencies/Stakeholders exchange climate change information.

-Explore range of expert climate change perspectives related to West Valley.

-Improve agencies/stakeholders understanding of climate change issues.

-Solicit stakeholders climate change concerns.

-Include climate change issues in Phase 1 PAS and Phase 2 decisions.

***Location***

*Ashford Office Complex, Room C-1, 9030 Route 219, West Valley, NY*

# Status of Climate Change Workshop
## (Thursday, August 2, 2012, 9am-4pm)

## CLIMATE CHANGE TENTATIVE PANEL

| Expert | Research Focus |
|---|---|
| **Dr. Art Degaetano** – Prof/Associate Chair<br>Dept. of Earth & Atmospheric Sciences<br>Director - NOAA NE Climate Center<br>Cornell University | Model climate influences<br>Document climate variations<br>Improve climate data quality<br>Assess climate impacts |
| **Dr. Ken Kunkel** - Executive Director<br>Division of Atmospheric Sciences<br>Desert Research Institute Reno Nevada | Climate variability and change<br>Historic climate variations<br>19th Century to present. |
| **Dr. Vasilii Petrenko** - Assistant Professor<br>Climate Dynamics and Variability<br>Dept. of Earth & Environmental Sciences<br>University of Rochester | Natural/Anthropogenic changes<br>Atmospheric chemistry<br>Gradual earth warming |

# Status of Climate Change Workshop
## (Thursday, August 2, 2012, 9am-4pm)

nyserda
Energy. Innovation. Solutions.

## CLIMATE CHANGE TENTATIVE PANEL

| Expert | Research Focus |
|---|---|
| **Dr. Michael Tippet** – Research Scientist<br>Intl. Research Inst. for Climate and Society<br>Columbia University | Climate modeling<br>Probabilistic seasonal forecasts<br>Statistics for climate science |
| **Dr. Xuebin Zhang** – Research Scientist<br>Climate Research Division<br>Environment Canada | Climate trends & variability<br>Climate extremes<br>Global/Regional scale |

ECS

# Status of Climate Change Workshop
## (Thursday, August 2, 2012, 9am-4pm)

## AGENDA

| | |
|---|---|
| 09:00-09:30 | Introductions & Objectives |
| 09:30-10:00 | DOE/NYSERDA Opening Address |
| 10:00-12:00 | Expert Presentations with Public Discussion |
| 12:00-01:00 | LUNCH |
| 01:00-02:00 | Expert Presentations with Public Discussion |
| 02:00-03:00 | Q&A with Expert Panel |
| 03:00-04:00 | Develop Broad Climate Change Guidance for Phase 1 PAS |

Follow-up: Brief Written Summary of Guidance Posted on Phase I Website

## *Location*

*Ashford Office Complex, Room C-1, 9030 Route 219, West Valley, NY*

# Next Potential Areas of Study

- Agencies have given Notice to Proceed for two additional Potential Areas of Study (PAS)
  - Engineered Barriers
    - In-place closure containment technologies.
    - Engineered barrier performance.
  - Exhumation
    - Alternative methods for, costs of, and risks associated with complete waste and tank exhumation.
    - Viability, cost, and benefit of partial exhumation of waste.
    - Exhumation uncertainties and benefit of pilot exhumation activities.
- Subject Matter Expert candidates have been identified for each PAS; DOE/NYSERDA review and approval pending

# Approved PAS SMEs

*Engineered Barriers: Dr. Craig Benson, PhD, PE, DGE, NAE*

- BS from Lehigh University; MSE and PhD from the University of Texas at Austin
- Distinguished Professor, Director of Sustainability Research and Education, and Chair of Civil and Environmental Engineering and Geotechnical Engineering at the University of Wisconsin-Madison
- Member of the National Academy of Engineering, and Fellow of the American Society for Testing and Materials and the American Society of Civil Engineers
- Experimental and analytical research in geo-environmental engineering for nearly three decades, with international recognition for his work on environmental containment.
- Recipient of numerous national and international awards for his research
- Author of more than 200 refereed professional papers and conference proceedings

# Approved PAS SMEs

*Exhumation: Dr. Ralph Wild, PhD*

- More than 33 years of experience in various corporate and consulting roles related to radiological waste disposal and integrated safety analysis
- Since 2004, Radiological Consultant to private companies and government agencies in the areas of integrated safety assessments, licensing, and radiological waste management
- Extensive Experience at West Valley Dating Back to Late 1990's
  - Project/Technical Manager/Principal Investigator for development of radionuclide inventories for the NRC- and State-Licensed Disposal Areas
  - Project/Technical Manager/Principal Investigator for feasibility study for a low-level waste storage facility for the State of New York
  - Technical support to evaluation of waste management alternatives
  - Technical support to evaluation of remedial actions

# Approved PAS SMEs

*Exhumation: Stephen Marschke*

- Senior nuclear engineering and radiological assessment analyst
- Areas of expertise include technology assessment, radiological risk assessment, nuclear licensing, and regulation/criteria development
- Managed effort for West Valley Nuclear Services Company (WVNSCO) in the assessment of alternative technologies for completion and closure and/or long-term management of the WNYNSC
- Authored the residual inventory supplemental report for the four high level waste tanks at WNYNSC

# Status of Phase 1 Study Website

Website Address: http://westvalleyphaseonestudies.org

- Phase 1 Study Website will be a primary tool where public can get up-to-date information on Phase 1 Studies including latest announcements and updates

- Website Contents: The phase 1 studies website has six main pages: ***Home***, ***Phase 1 Studies Process***, ***Phase 1 Studies Update***, ***Documents, Public Meeting***, and ***Contact us***

- There are links to other sub pages under six main pages

# Status of Phase 1 Study Website

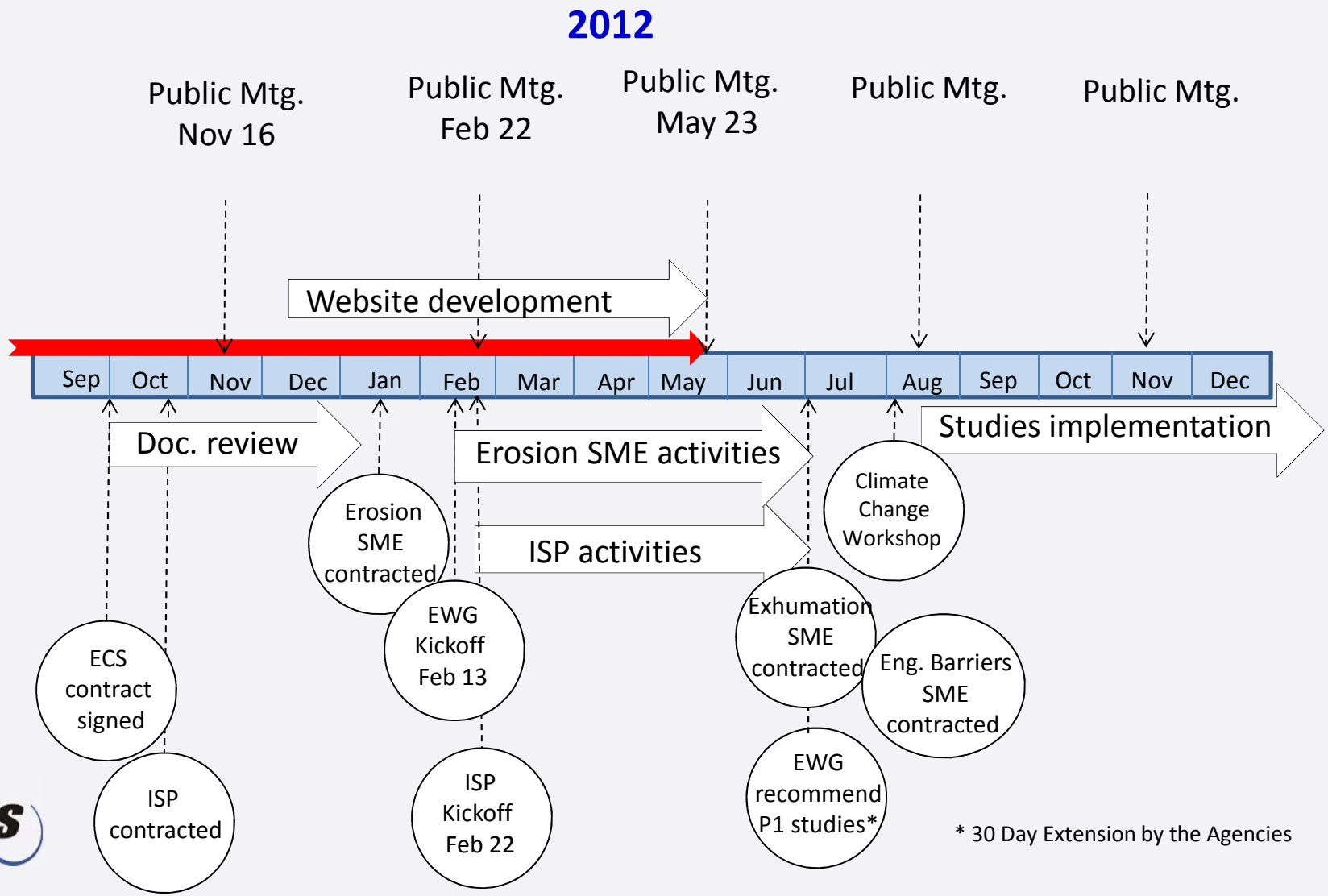
Live Demonstration of Phase 1 Study Website

# Looking Ahead

## Upcoming ECS Work Activities:

- Continue to update Phase 1 Study Website with DOE/NYSERDA
- Work with DOE/NYSERDA to complete final details for the Climate Change Workshop
- Complete a recommended program of work for the Erosion PAS and progress with implementation upon DOE/NYSERDA approval
- Secure DOE/NYSERDA approval of SMEs for the Exhumation and Engineered Barriers PASs, and develop the corresponding programs of work

# Near-Term Timeline



# Acronyms

| | |
|---|---|
| DOE | Department of Energy |
| ECS | Enviro Compliance Solutions, Inc. |
| EWG | Erosion Working Group |
| ISP | Independent Scientific Panel |
| NYSERDA | New York State Energy Research and Development Authority |
| PAS | Potential Areas of Study |
| SME | Subject Matter Expert |
| WVNSCO | West Valley Nuclear Services Company |
| WNYNSC | Western New York Nuclear Service Center |

# We Welcome Your Questions . . .

# West Valley Demonstration Project
# Summary of Quarterly Public Meeting – May 23, 2012

## Members of the Public and Others Present

Diane D'Arrigo, Joanne Hameister, Art Klein, Lee Lambert, Patsy Lane, Kathy McGoldrick, Anthony Memmo, Barry Miller, Joe Patti, Warren Schmidt, Ray Vaughan, Barbara Warren, Eric Wohlers, Jay Wopperer. Via Telephone: Melissa Fratello.

## Agency and Contractor Participants

*Department of Energy (DOE):* Bryan Bower, Martin Krentz, Moira Maloney, Ben Underwood.
*New York State Energy Research and Development Authority (NYSERDA):* Tom Attridge, Paul Bembia, Andrea Mellon, Dave Munro.
*CH2M Hill B&W West Valley, Inc. (CHBWV):* Lynette Bennett, Dan Coyne, John Rendall.
*Enviro Compliance Solutions Inc. (ECS):* Dhananjay Rawal, Joe Yeasted, Dan Herlihy.

## Introductions and Announcements

The facilitator Bill Logue welcomed all present and reviewed the meeting protocols and documents[1]. Representatives of DOE, NYSERDA, CHBWV, and ECS introduced themselves.

## Project Update

Bryan Bower of DOE provided a project update. On safety he noted that there were three Total Recordable Cases in the past quarter. There were no lost time work rate or first aid cases in April.

CH2M HILL B&W West Valley, Inc. (CHBWV) works under a performance-based contract which includes facility disposition, stewardship, maintenance and operational activities. Not all Phase 1 work is part of this contract, e.g. removal of Main Plant Process Building (MPPB) below 100' level (grade) and the source area of the North Plateau Groundwater Plume. Mr. Bower provided updates for the four contract milestones and target completion dates.

Milestone 1 – Complete HLW Canister Relocation by 5/1/15. Status: Completed Geotechnical analysis for siting the Cask Storage Pad; DOE selecting vendor for High-Level Waste (HLW) System; submitted safety design strategy to DOE; Chemical Process Cell waste removal; and planning for Equipment Decontamination Room cleanup.

Milestone 2 - Waste Operations Process, ship and dispose of all legacy waste off-site by 9/30/14. Status: Shipped more than 40,000 $ft^3$ of Low-Level Waste (LLW) exceeding FY12 plan six months early. DOE final approval of Waste Incidental to Reprocessing (WIR) for melter. LLW shipping will resume if funds are available. Shipping contracts are being reviewed to reduce costs.

Milestone 3 – Facility Disposition - Demolition and removal of the Main Plant Process Building and the Vitrification Facility by 6/30/17. Status: Continued MPPB preparation for demolition. Data review complete for characterization of process cells. Demolition equipment arrived for removal of the 01-14 building.

Milestone 4 - Complete all work described in the Performance Work Statement by 6/30/17. Work in Progress:

01-14 Building preparation for demolition and notified EPA of stack termination and NESHAPS assessment results. Preparations for demolition continued for other site facilities. In response to a question it was noted that the Environmental Lab was being shut down because it is inefficient to maintain with limited state certification. Gross alpha and beta testing capabilities will be maintained on-site.

[1] Documents and materials relating to the Phase 1 Studies are available at www.westvalleyphaseonestudies.org and are listed at the end of this summary.

Lagoon 3 will be removed as part of the Phase 1 Decommissioning, stabilization evaluation fieldwork is complete. The lakes and dams were inspected and a proposal for dam repairs and modifications will be developed. Scouring at the bottom of the emergency spillway at Lake One is being evaluated.

A revision to the NDA North Slope armoring design is in process. A discussion about the precipitation assumptions underlying the armoring design ensued. Following the meeting DOE clarified that the NDA North Slope Armoring is designed to meet the general criteria provided in NUREG-1623 guidance assuming a 30-year design life. The NRC suggested that DOE use NUREG-1623 guidance and 1/2 the Probable Maximum Precipitation (PMP) rainfall event with respect to the design of the NDA North Slope Armoring. Subsequently, the NRC has reviewed and agreed with DOE's previous contractor's proposed design. Once constructed, the armoring should inhibit erosion during the occurrence of an event equal to 1/2 the PMP or 12-15 inches of rain over a 6-24 hour period.[2] The rainfall intensity distribution that DOE used for the design storm assumes that 12.3 inches of rain falls within the first 6 hours of the storm and that 6.0 inches falls in a one-hour period (the 4th hour of the storm). DOE used this "flashy" design storm in an effort to be conservative instead of assuming a nearly constant, (relatively) low intensity storm. The NDA Basin #3 is designed to uniformly overtop along the entire outer edge of the basin (approximately 260 feet in length) during a large rain event. The proposed armoring solution is designed to handle the flow over the edge of the basin. In a 2007 comment response letter on the NDA Cap and Slurry Wall design, the NRC recommended that the DOE use runoff from 1/2 the PMP due to the lack of historic data for very small drainage areas (less than 10 square miles).

The Tank 8D-4 Liquid/Solids characterization sampling is complete. Tank 8D-4 was used to store acidic THOREX liquid high-level waste generated by Nuclear Fuel Service (NFS). The 15,000 gallon tank contains approximately 4,000 gallons of liquid and 1,000 gallons of sludge that originated from several sources: flush liquids from the vitrification facility process vessels after the melter was shutdown, vitrification cell sump liquids, seal pot liquids, laboratory sample analysis waste, and transfer pump removal rinse water. Samples were collected in the liquid and sludge layer and the depth of the sludge was obtained. Two liquid samples were shipped to General Engineering Laboratories for analysis. Southwest Research Institute is continuing with sample preparation of the two solids samples. Tank component sampling planning is in progress to obtain better information on the condition of the tank.

Sewage treatment plant restoration: 1.25 million gallons of waste and sludge with trace quantities of mercury were removed from the sewage treatment facility and equalization basin and shipped for disposition at the Buffalo sewage treatment facility. The mercury was from empty reagent bottles that were rinsed with the rinseate being poured into the drain. A new reagent without mercury is being used. A stakeholder expressed concern that disposal at the Buffalo sewage treatment system might dilute but would not eliminate mercury from a public drinking water supply. It was discussed that the waste met the waste acceptance criteria of the Buffalo Sewer Authority.

Mr. Bower gave an overview of what is expected to be done before the August Quarterly Public Meeting:

- Complete facility preparations for turnovers to Decontamination & Decommissioning
- Complete end points and turnover for: laundry, environmental lab, begin shutdown of site utility room, and complete wireless installations
- Canal dredging/Dam system repairs
- Waste Tank Farm Tank 8D-4 Characterization
- New computerized maintenance management system operational – expected early-mid June
- Award HLW storage system contract

[2] Sources include: NOAA 1980. NOAA Hydrometeorological Report No. 51 - Probable Maximum Precipitation Estimates - United States East of the 105th Meridian, EM Hansen, LC Schreiner, JF Miller, Washington DC, August 1980 and NOAA 1982. NOAA Hydrometeorological Report No. 52 - Application of Probable Maximum Precipitation Estimates - United States East of the 105th Meridian, LC Schreiner, JT Reidel, Washington DC, August 1982.

- Waste removal in chemical process cell and equipment decontamination room

In response to questions, DOE and CHBWV clarified that that the HLW waste storage contract RFP was issued in January by CHBWV, proposals are being reviewed. In response to a request, following the meeting it was clarified that the proposals and the evaluation criteria will not be made available due to disclosure of proprietary information concerns. Several stakeholders expressed displeasure that there was no process for public input into the evaluation or selection process for the HLW waste storage system. This concern arises because some cask types have experienced issues at nuclear power plants. Some felt that because there is no permanent storage facility, the 50-year licensed life may not be sufficient and therefore the decision not to have a more substantial or hardened structure storage on-site warrants a comment opportunity. They referenced the NRC confidence decision stating that a long-term storage facility will be available within 60 years after the closure of the last nuclear reactor. In reply to these concerns, Mr. Bower noted that the dry storage casks provide shielding to the 25 mrem standard and are built to NRC specifications and licensing requirements. The HLW canisters do not have the criticality and heat issues of spent nuclear fuel. The designs will allow for shipment to a storage facility once one becomes available.

## Phase 1 Studies Update

Erosion PAS. Dhananjay Rawal of ECS noted the addition of a sixth Subject Matter Expert (SME) to the Erosion Working Group (EWG) in response to a stakeholder suggestion. Richard Young, Ph.D., Professor of Geological Sciences at SUNY Geneseo joins Greg Tucker, Ph.D., Sean Bennett, Ph.D., Robert Fakundiny, Ph.D., Michael Wilson, Ph.D., and Sandra Doty, M.S., P.E. The EWG conducts weekly conference calls and is working on recommendations for Phase 1 Studies.

Climate Change Workshop. Dan Herlihy of ECS presented an update on the Climate Change Workshop, to be held on August 2, 2012 from 9 AM - 3 PM. The foundation questions for the Workshop are: 1) What are the potential impacts of climate change on Phase 1 PAS? and 2) How may these impacts be evaluated in order to help the agencies reach a consensus on Phase 2 decisions? The workshop goal is to provide a platform where agencies and stakeholders can exchange climate change information, explore the range of expert climate change perspectives, improve agencies/stakeholders understanding of climate change issues, discuss stakeholders' climate change concerns, and examine potential climate change issues/concerns in Phase 1 PAS.

Tentative panelists for the workshop are: Dr. Art Degaetano – Prof/Associate Chair, Dept. of Earth & Atmospheric Sciences, Director - NOAA NE Climate Center, Cornell University; Dr. Ken Kunkel - Executive Director, Division of Atmospheric Sciences, Desert Research Institute Reno Nevada; Dr. Vasilii Petrenko - Assistant Professor, Climate Dynamics and Variability, Dept. of Earth & Environmental Sciences, University of Rochester; Dr. Michael Tippett – Research Scientist, International Research Institute for Climate and Society, Columbia University; Dr. Xuebin Zhang – Research Scientist, Climate Research Division, Environment Canada. The experts cover a range of perspectives and their expertise will be on the website. Panelists were suggested by the agency and stakeholders and all suggested experts were contacted.

Mr. Herlihy reviewed the workshop agenda which will have expert presentations with public discussions, followed by general Q&A. A summary of the workshop issues, and recommendations for a path forward to address climate change issues within the Phase I studies will be posted on the website.

Questions were raised about how the Workshop would link to the various PAS work groups, if the SMEs and Independent Scientific Panel (ISP) will attend the Workshop, how information will be used after the Workshop in the Phase 1 Studies and if the Workshop experts will be available for ongoing input. Mr. Bembia commented that there will be feedback from the experts and that information will be plugged into the work group plans. Several

stakeholders expressed a desire for more interaction of the climate experts with the public and for greater outreach to engage a wider audience. They asked how the recommendations may be used in future modeling of erosion.

Additional PASs. Joe Yeasted of ECS provided an update of the PAS since the previous QPM. The agencies have given notice to proceed for two additional PAS

- Engineered Barriers (In-place closure containment technologies; and engineered barrier performance.)
- Exhumation (Alternative approaches to, costs of, and risks associated with complete waste and tank exhumation; viability, cost, and benefit of partial exhumation of waste; and exhumation uncertainties and benefit of pilot exhumation activities)

Subject matter expert candidates have been identified for each PAS; some are pending DOE/NYSERDA review and approval. Three SMEs have been approved to date. For Engineered Barriers the expert to date is Dr. Craig Benson, Distinguished Professor, Director of Sustainability Research and Education, and Chair of Civil and Environmental Engineering and Geotechnical Engineering at the University of Wisconsin-Madison. For Exhumation the experts are: Dr. Ralph Wild and Stephen Marschke. Dr. Wild has more than 30 years experience as a consultant on radiological waste disposal including extensive experience at West Valley dating back to the 1990's with waste inventory in the disposal areas. Mr. Marschke has extensive experience as a consultant including managing teams for the 1996 WVDP Draft Environmental Impact Statement concerning decommissioning designs, radiological and hazardous waste volumes, schedules and cost estimates. He has worked on radionuclide inventories for the HLW tanks and conceptual designs for tank closure for the 2010 EIS. Further information on their backgrounds is available on the website. Additional experts are being contacted.

Mr. Yeasted noted that "engineered barriers" includes vertical barriers and covers, containment in place and any engineered element. The experts will look at the long-term physical performance of barriers and repair and maintenance costs over time. Discounted rates may be addressed by another work group.

Phase 1 Studies Website. Dhananjay Rawal provided a status and demonstration of the Phase 1 Studies Website. (www.westvalleyphaseonestudies.org) The site will have up-to-date information on Phase 1 Studies including the latest announcements, updates, and documents as they are approved by the agencies. He reminded those present that questions and comments should be emailed to ***both*** Moira Maloney of DOE and Lee Gordon of NYSERDA; their contact information is on the "Contact Us" tab. Comments will be acknowledged and responded to by the agencies.

Upcoming ECS Activities and Timeline. Mr. Rawal presented the upcoming ECS work activities which include: Continue to update Website; finalize the Climate Change Workshop; complete a recommended program of work for the Erosion PAS and progress with implementation upon approval; secure approval of SMEs for the Exhumation and Engineered Barriers PASs, and develop the corresponding programs of work. A Near-Term Timeline through the end of 2012 was presented with major milestones.

## General Discussion

Clarification questions were addressed during the presentations and other questions and comments were reserved to the end of the meeting. Where applicable the discussion or answer that may have occurred later in the meeting is noted with the topic above. More general comments are addressed below.

Studies recommended by PAS work groups may be conducted, as appropriate, either by the SMEs or by other experts or technical firms.

A number of questions were raised about the availability of contracts, other than through FOIA requests, and bidder lists and the opportunity for public input. Mr. Bower and Ben Underwood, counsel to DOE, responded. In general, prime contracts are available at www.emcbc.doe.gov. Of specific interest in contracts are Section C Performance

Work Statements and Section H Special Clauses. In Requests for Proposals they are Section L How to Prepare the Proposal and Section M Important Factors. Concerning opportunities for public input in the contracting process, there are legal and contract laws which may limit opportunities and caution must be used so as to maintain the integrity of the procurement process.

## Topics for Next QPM August 22, 2012

- Erosion Working Group recommendations for program of work
- Outputs of the Climate Change Workshop

## Documents Distributed

| Document Description | Generated by; Date |
|---|---|
| Meeting Agenda | ECS; 5/23/12 |
| DOE Presentation – Project Update | DOE; 5/23/12 |
| West Valley Phase 1 Studies Update | ECS; 5/23/12 |